

What is claimed is:

1. A workpiece carrier apparatus for transfer press machine comprising:
guide beams which are arranged on a left and right side of a press line;
5 a plurality of carriers which are supported by the guide beams such as to allow movement in a direction of the press line;
cross bars which are provided with workpiece holders and are attached to the carriers such as to be capable of being raised and lowered;
a first carrier mechanism which feeds a carrier located on a most upstream side in
10 the direction of the press line, in the press line direction; and
a second carrier mechanism which feeds a plurality of carriers located downstream in the press line direction, in the press line direction.
2. A workpiece carrier apparatus for transfer press machine according to claim 1,
15 wherein each of the carriers comprises a vertically moving body capable of being raised and lowered independently, and a drive device which drives the vertically moving body, and
the cross bars are fitted between vertically moving bodies of mutually opposed carriers on the left and right guide beams.
- 20 3. A workpiece carrier apparatus for transfer press machine according to claim 1, wherein each of the carriers comprises a vertically moving body capable of being raised and lowered, and
the workpiece carrier apparatus further comprises drive devices to raise and lower
25 vertically moving bodies of a plurality of groups of adjacent carriers, and a power

transmission mechanism connecting the drive devices, and the vertically moving bodies are raised or lowered simultaneously by any of the drive devices corresponding to the respective groups, and

the cross bars are fitted between vertically moving bodies of mutually opposed carriers on the left and right guide beams.

4. A workpiece carrier apparatus for transfer press machine according to any one of claim 1 through claim 3, wherein there is further provided a lifting device which raises and lowers the guide beams.

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5. A workpiece carrier apparatus for transfer press machine comprising:

feed beams which are arranged on a left and right side of a press line such as to allow movement in a direction of the press line;

vertically moving bodies which are fitted at required locations for the feed beams so as to be capable of being raised and lowered;

lifting devices which are installed corresponding to each vertically moving body for raising and lowering the vertically moving bodies; and

cross bars which are provided with workpiece holders, and are fitted between mutually opposed vertically moving bodies provided on the feed beams.

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6. A workpiece carrier apparatus for transfer press machine according to claim 5, wherein each of the lifting devices is installed above each of the feed beams and corresponding to the vertically moving body.

25 7. A workpiece carrier apparatus for transfer press machine according to claim 5,

wherein the lifting devices are installed at positions above the feed beams, and the workpiece carrier apparatus is further provided with a connecting rod which connects the lifting devices and the vertically moving bodies in a freely swinging manner.